

Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An HCV vaccine comprising a polynucleotide that encodes ~~the polypeptide sequences of the HCV proteins selected from the group consisting of:~~ [[core]]Core, NS3, NS4B and NS5B, ~~for use in medicine, wherein the polynucleotide encodes no other HCV protein.~~
2. (Currently Amended) [[An]]The HCV vaccine as claimed in claim 1, wherein the polynucleotide encodes a [[core]]Core protein which is truncated from the carboxy terminal end ~~in a sufficient amount to reduce the inhibitory effect of Core protein~~ upon the expression of other HCV proteins.
3. (Currently Amended) [[An]]The HCV vaccine as claimed in 3, wherein the truncated [[core]]Core protein has a deletion of at least the C-terminal 10 amino acids.
4. (Currently Amended) [[An]]The HCV vaccine as claimed in claim 3, wherein the truncated [[core]]Core protein consists of sequence encoding the Core 1-151 ~~sequence~~ amino acids 1-151 of the Core protein.
5. (Currently Amended) [[An]]The HCV vaccine as claimed in claim 3, wherein the truncated core protein consists of sequence encoding the Core 1-165 ~~sequence~~ amino acids 1-165 of the Core protein.
6. (Currently Amended) [[An]]The HCV vaccine as claimed in claim 1, wherein the HCV ~~proteins~~ protein encoding sequence is ~~are~~ present in the form of a fusion ~~protein~~ containing at least one or more of ~~sequence encoding~~ the HCV proteins.
7. (Currently Amended) [[An]]The HCV vaccine as claimed in claim 6, wherein the fusion ~~protein~~ is a double fusion ~~consisting of~~ the polypeptide sequences [[of]]NS4B and NS5B.

8. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 6, wherein the fusion ~~protein~~ is a double fusion ~~consisting of~~ the polypeptide sequences ~~[[of]]~~ NS3 and Core.

9. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 1, wherein the HCV proteins are encoded by the polynucleotide in ~~more than~~ at least one expression ~~cassettes~~cassette.

10. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 9, wherein ~~[[the]]~~ a second expression cassette encoding the Core protein is in a cis location downstream of ~~[[the]]~~ a first expression cassette which encodes at least ~~on of the one~~ other HCV ~~proteins~~protein.

11. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 10, wherein the second expression cassette encoding the Core protein is downstream of ~~[[an]]~~ a first expression cassette ~~which~~ that encodes ~~[[the]]~~ NS5B protein.

12. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 1, wherein at least one of the HCV proteins present are inactivated by mutation.

13. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS5B protein that comprises a mutation in motif A.

14. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS3 protein, wherein the NS3 protein protease activity has been abrogated by mutation in ~~any of the~~ at least one catalytic triad amino ~~acids~~acid.

15. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS3 protein, wherein the NS3 protein helicase activity has been abrogated by mutation in ~~one or more of the~~ at least one helicase ~~motifs I, II, III or IV~~ motif selected from the group of: motif I, II, III, and IV.

16. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a truncated NS4B protein ~~comprising a truncation to remove the~~ without a highly variable N-terminal region.

17-18. (Cancelled)

19. (Currently Amended) ~~[[An]]~~The HCV vaccine as claimed in claim 18, wherein the DNA sequence is ~~in the form of a~~ plasmid.

20. (Currently Amended) ~~[[A]]~~The vaccine as claimed in ~~any one of claims 1 to 17~~claim 1, wherein the ~~oligonucleotides are~~polynucleotide is codon optimised for expression in mammalian cells.

21. (Currently Amended) A method of preventing or treating an HCV infection in a mammal comprising administering a vaccine as claimed in ~~any one of claims 1 to 17~~claim 1 to a mammal.

22. (Currently Amended) A method of ~~vaccination of~~vaccinating an individual comprising taking a polynucleotide vaccine as claimed in ~~any one of claims 1 to 17~~claim 1, coating the ~~polynucleotide onto~~ gold beads with the polynucleotide vaccine and delivering the gold beads into the skin.

23. (Cancelled)